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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,817	08/25/2003	Won-jae Yoon	1572.1195	1426
21171	7590	03/07/2005	EXAMINER	
STAAS & HALSEY LLP			ZEC, FILIP	
SUITE 700				
1201 NEW YORK AVENUE, N.W.			ART UNIT	PAPER NUMBER
WASHINGTON, DC 20005			3744	

DATE MAILED: 03/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/646,817

Applicant(s)

YOON ET AL.

Examiner

Filip Zec

Art Unit

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 December 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Amendment*

1. Applicant's arguments with respect to claims 17-19 have been considered but are moot in view of the new ground(s) of rejection.
2. Applicant's arguments regarding claims 1-16 and 20-21, filed on 12/20/2004 have been fully considered but they are not persuasive.
3. The applicant is notified that claim 20 in the amendment filed on 12/20/2004 is actually amended and is not the original claim, rejected in the office action from 9/20/2004. Additional limitation "a plurality of stackable cooling cabinets" was added in line 2. PTO examined and rejected this version of the claim, however, the applicant is asked to formally submit an amendment to this claim in future correspondence.
4. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Lee argues that it is possible to easily change the shape and capacity of the expandable type refrigerator based on the installation site environment (col 7, lines 1-10), Park shows the motivation for the use of a thermoelectric element in a cold storage box (col 2, lines 34-39), Shelton shows the motivation for making refrigerating compartments stackable and

Art Unit: 3744

interchangeable (col 4, line 62) and Kobayashi shows the motivation for using an inverter as a part of the refrigeration circuit (col 5, lines 16-21).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3, 5-10, 12, 13 and 15-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,921,095 to Lee et al., in view of U.S. Patent 5,722,244 to Shelton et al. Lee discloses applicant's basic inventive concept, an expandable type refrigerator which is capable of coupling a plurality of refrigerating units or freezing units which each have independent operational cycles and a predetermined size, and is easily expanded at the installation site of a refrigerator by coupling a plurality of the refrigerating units or freezing units (col 2, lines 27-36), each unit containing a cool air generator (10, FIG. 6), coupled to the refrigerator compartments (100, 200, 300...), which are detachable from each other (15, 14) and have doors (11), substantially as claimed with the exception of stating that the cooling cabinets could be oriented in any direction or in a hexahedronal shape, the use of an evaporator, that the refrigerated compartments are stackable and that the compressor-condenser-expansion valve circuit is separated from the main system, coupled to the cooling units via duct. Lee teaches that it is possible to easily change the shape and capacity of the expandable type refrigerator based on

Art Unit: 3744

the installation site environment (col 7, lines 1-10). Lee also describes the machine compartments (10) containing condensers and compressors, necessary for a refrigerating circuit containing an evaporator (col 4, lines 18-24), to be old in the refrigerating art. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made from the teaching of Lee to modify the system by being able to orient the cabinets in any direction in order to improve the accessibility of the freezer/cooler units. Shelton teaches the use of a separated circuit for the compressor (80)-condenser (82)-expansion valve (90) portion (FIG. 6), coupled to the cooling units via duct (col 7, lines 17-20) to be old in the refrigeration art. Shelton also teaches the method of stacking compartments (col 4, lines 62-63) to be old in the refrigeration art. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made from the teaching of Shelton to modify the system of Lee by using the compressor-condenser-expansion valve circuit separated from the main system, coupled to the cooling units via duct in order to provide a larger cooling capacity than a smaller circuit containing smaller equipment and to stack the refrigerating compartments in order to satisfy user's spatial requirements (col 4, line 62).

7. Claims 4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,921,095 to Lee et al., in view of U.S. Patent 5,722,244 to Shelton et al., and further in view of U.S. Patent 6,412,286 to Park et al. Lee in view of Shelton discloses applicant's basic inventive concept, an expandable type refrigerator which is capable of coupling a plurality of refrigerating units or freezing units which each have independent operational cycles and a predetermined size, and is easily expanded at the installation site of a refrigerator by coupling a plurality of the refrigerating units or freezing units (col 2, lines 27-36), each unit containing a

Art Unit: 3744

cool air generator (10, FIG. 6), coupled to the refrigerator compartments (100, 200, 300...), which are detachable from each other (15, 14) and have doors (11), substantially as claimed with the exception of stating use of a thermoelectric semiconductor as a cooling element. Park, however, teaches the use of thermoelectric semiconductors to be old in the refrigeration art (20, FIG. 1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made from the teaching of Park to modify the system of Lee in view of Shelton by using a thermoelectric semiconductor as a cooling element in order to make the cooling element removable and reduce the size of the system by simple elimination of the compressor-condenser-evaporator circuit (col 2, lines 34-39).

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,921,095 to Lee et al., in view of U.S. Patent 5,722,244 to Shelton et al., as applied to claim 10 above, and further in view of U.S. Patent 4,795,088 to Kobayashi et al. Lee in view of Shelton discloses applicant's basic inventive concept, an expandable type refrigerator which is capable of coupling a plurality of refrigerating units or freezing units which each have independent operational cycles and a predetermined size, and is easily expanded at the installation site of a refrigerator by coupling a plurality of the refrigerating units or freezing units, each unit containing a cool air generator, coupled to the refrigerator compartments, which are detachable from each other and have doors and comprising the compressor-condenser-expansion valve circuit being separated from the main system, coupled to the cooling units via duct, substantially as claimed with the exception of stating that the refrigerator circuit contains an inverter. Kobayashi, however, teaches the use of an inverter in a refrigeration circuit to be old in the refrigeration art (80, FIG. 4). Therefore, it would have been obvious to one having ordinary skill

Art Unit: 3744

in the art at the time the invention was made from the teaching of Kobayashi to modify the system of Lee in view of Shelton by using the inverter as a part of the refrigeration circuit in order to control the compressor so as not to exceed the initialized maximum capacity which has been predetermined (col 5, lines 16-21).

### ***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Filip Zec whose telephone number is (571) 272-4815. The examiner can normally be reached on Monday through Friday.

Art Unit: 3744

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Denise Esquivel can be reached on (571) 272-4808. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Filip Zec

Examiner

Art Unit 3744



**CHERYL TYLER**

**SUPERVISORY PATENT EXAMINER**

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